

STATUS OF THE CLAIMS

Claims 1-33 were pending.

Claims 1-15 and 17-33 were rejected as anticipated under 35 USC 102 based on public sale or use.

Claim 16 is rejected under 35 USC 112 for non-enablement.

Claims 2, 3, and 9 are rejected under 35 USC 112 for indefiniteness in the term "milled in the swollen stage".

Claims 1, 4-6, 23, and 28 are rejected as obvious under 35 USC 103(a) over Kuwata et al (US 4,987,169).

Claim 33 is rejected (apparently) as obvious under 35 USC 103(a) over Kuwata et al.

Claims 2,3, 7, 9-10, 12-15, 17-22, 24-27, and 29 are rejected under 35 USC 103(a) as obvious over Kuwata et al in view of the dictionary definition of "mill".

Claims 1-4, 6-7, 9, 19-30, and 33 have been amended.

Claim 8 has been cancelled.

Claims 34 - 37 have been added.

Claims 1-7 and 9-37 are presented for reconsideration.

REMARKS

The present application was filed with 33 claims, of which claims 1 and 7 were independent. The claimed invention is a silicone gel (products made therefrom, and a method of making the silicone gel) in which an alpha, omega-di lower alkenyl terminated polysiloxane is polymerized with a polyhydrosiloxane in the presence of a hydrosilation polymerization catalyst in at least one of a silicone oil or a hydrocarbon oil where the reaction components are mixed until gelling is visibly detected. In one embodiment, once gelling is seen, mixing during the polymerization step is halted in order to limit the amount of shearing forces experienced by the growing polymer. Mixing is initially necessary to adequately disperse the reactants, but once they are dispersed, the reaction proceeds without mixing.

Continued mixing after gelling becomes visible (as in the prior art) breaks the growing nascent polymer chains so that the molecular weight of the product of the prior art process is substantially less than that of the product of the present invention. However, in another embodiment the mixing can continue because of the use of a small blade which therefore only applies the small amount of shearing forces to a small portion of the reaction mass. This is clearly indicated in paragraph 0023 of the specification.

The original independent claims (1 and 7) did not mention these aspects (the control of shearing forces in the polymerization reaction) of the invention. Claims 1 and 7 have been amended to include the requirement that during the polymerization step, there is initial mixing, but that mixing is stopped once gelling is visibly observed. This limitation was in original claim 8. Thus the amendment of claims 1 and 7 in this regard does not present any new matter. New claims 34 and 35 are merely original claims 1 and 7 respectively with the limitation of not applying the gentle shearing forces to the entire mass (as shown in lines 8-13 of paragraph 0023 of the specification). Hence, claims 34 and 35 do not add any new matter. Claims 36 and 37 limit claims 34 and 35 respectively to include the limitations of original claim 16 so that their scope is that of original claims 1 and 7 with the limitations of original claim 16 incorporated therein. Therefore, there is no new matter in the addition of claims 36 and 37.

Claims 1 and 7 have been further amended to correct typographical errors in the terms "lower alkenyl" and "polyorganohydrosiloxane". Applicant submits that these amendments do not introduce any new matter.

Still further, claim 1 has been amended to clarify that the material subjected to milling is the swollen gel that is the result of the polymerization step. This is supported by original claims 2 and 3 which indicated that the gel is milled in the swollen stage. No new matter is introduced by this amendment.

Claim 4 is amended to delete a superfluous “wherein” as suggested by the Examiner.

Claims 6, 19-30, and 33 are amended to insert the term “silicone” before “gel” because the term “gel” is used in more than one context in the amended claims 1 and 7, and the qualifier distinguishes between the different contexts. Applicant submits that no new matter is introduced by this amendment.

Thus, the amendments to the claims are all proper and entry of the amendments is respectfully requested.

Applicant has also amended 6 paragraphs of the specification. The amendment to paragraph 0007 corrects a typographical error in the term “polyorganohydrosiloxane”. The amendment to paragraph 0013 corrects a typographical error in the term “lower alkenyl” and inserts the term “swollen” before “gel” to distinguish two contexts in which the term “gel” is now used in the claims. Paragraph 0020 is amended to correct a typographical error in the term “lower alkenyl”. Paragraph 0021 is amended to correct a typographical error in the term “polyorganohydrosiloxane”. Paragraph 0022 is amended to correct typographical errors in the terms “lower alkenyl” and “polyorganohydrosiloxane”. Finally, paragraph 0023 is amended to recite in the specification that, in a preferred embodiment, the polymerization step is conducted in the substantial absence of shearing forces, which amendment finds literal support in original claim 16. Paragraph 0023 is further amended to clarify that the “gentle mixing until gelling becomes visible” is within the scope of the term “controlling shear during polymerization”. This was at minimum implicit in the original description in paragraph 0023 and is certainly clear by applicant’s having both original claims 8 and 16 as well as the description in paragraph 0013 “shear is kept to a minimum in the polymerization stage”. As such, Applicant submits that the specification amendments are all proper and do not introduce any new matter. Entry of the specification amendments is respectfully requested.

As part of an Information disclosure Statement, Applicant submitted a recitation of commercial activities taken by applicant that dealt with various formulations in the time period before the present application filing date. It should be noted that that information was provided for compliance with the Applicant's duty of candor and Applicant does not concede that the formulations described therein qualify as prior art.

Based on the offer for sale history recited, the Examiner rejected claims 1-15 and 17-33 under 35 USC 102(b). The Examiner points to Formulation C in particular, where Applicant pointed out two price quotes for sale of a formulation more than a year before Applicant's provisional application (in which shearing force was not controlled) and one more than a year before the present application filing date, but less than 1 year before Applicant's provisional filing date (in which shearing force was controlled). The Examiner is correct in that the only difference in these two products was in the method of preparation and that difference is now clearly set forth in all of the independent claims. The Examiner should note that in the Information Disclosure that provided the commercial offer history, the control of shear being referenced is the shearing forces during the polymerization process. Products made from identical reactants which are allowed to proceed through the polymerization process with continued mixing until the polymerization reaction is complete or substantially complete have very different properties from those in which the mixing is substantially halted when gelling is visibly observed, and the reaction is allowed to proceed without significant shearing forces being applied. The two resulting products have considerably different molecular weights and viscosities, and when incorporated into cosmetic products in equal percentages, the lower molecular weight gels (where mixing continued substantially throughout the polymerization process) gives hazy or cloudy cosmetic products, but the higher molecular weight gels of the invention (where mixing and shearing forces are substantially halted once gelling is visibly observed) yield clear products.

As stated, the "shear control" referred to in the Information Disclosure is the shear during the polymerization process caused by the mixing. "No shear control" indicates

allowing the polymerization reaction to continue to substantial completion with mixing occurring during substantially the entire polymerization reaction time. "Shear control" indicates that mixing is substantially halted when gelling is visibly noted. Claim 8 specifically recited this aspect that upon addition of the monomers and the polymerization initiator, the components were mixed until gelling is visibly seen and the mixing is then halted. The Examiner should note that the claim 8 limitations have been incorporated into both independent claim 1 and independent claim 7. The Examiner should also note that Formulation C and Formulation O (with the claim 8 limitations) of the Information disclosure Statement are disclosed within Applicant's Provisional application 60/431,947, filed Dec 11, 2002. Thus, those formulations had an effective filing date of Dec 11, 2002. As disclosed in the Information Disclosure Statement, the first offer for sale of formulation C where the mixing was stopped when gelling was visibly seen was May, 2002, less than 1 year before Applicant's provisional filing date. Similarly, Formulation O was first offered for sale less than 1 year before the filing date of Applicant's Provisional application. Therefore, offers for sale of Formulations C and O having the mixing stop when gelling is visibly seen are not prior art under 35 USC 102(b). The identical formulation components prepared in a manner such that during polymerization, mixing is not stopped, but continues throughout the polymerization process (the only products offered for sale more than 1 year before Applicant's Provisional filing date) are not of the invention and have different properties. They do not anticipate the claimed invention. Thus, 35 USC 102(b) rejection should be withdrawn.

In addition, claims 34 and 35 incorporate the limitation of claim 16 therein. Thus, since claim 16 was not rejected under the 35 USC 102(b) rejection, these claims are not subject to the 35 USC 102(b) rejection at all.

The Examiner also states that he assumes all of the limitations found in claims 7-15 and 17-18 are found in the prior art. Applicant points out specifically, as stated above, the shear control mentioned in the Information Disclosure was directed to the aspect of halting

the “mixing” of the polymerization reaction step once gelling was visible. This is specifically claimed in original claim 8 and now contained in claims 1 and 7. With respect to the parameters in claims 9-15 and 17-18, while Applicant disagrees with the Examiner’s statements, since the inclusion of the limitations of claims 8 or 16 into the independent claims makes this rejection moot, Applicant will not argue these points at this time, but reserves the right to argue them at a later date.

Claim 16 was rejected under 35 USC 112 as non-enabled. Claim 16 states that the polymerization reaction takes place in the substantial absence of shear force. The Examiner indicates that this is in conflict with claim 8 which states that there is initial mixing which is halted once gelling is visible. It is the Examiner’s position that claim 16 and claim 8 are in direct conflict with each other since mixing is a type of shear. The Examiner points out that paragraph 23 of the application discloses mixing is done with a small blade.

While Applicant appreciates the Examiner’s comments, Applicant submits that the two claims are not in conflict and that claim 16 is adequately supported by the specification. Applicant submits that “the substantial absence of shearing force” does not mean that there is none, but only very little. Therefore, there can be some gently mixing to disperse the reactants. In addition, the Examiner is directed to paragraph 13 of the specification. In lines 7-9 of that paragraph the specification states: “[d]uring the polymerization reaction, shear is kept to a minimum to allow for the optimal growth of the polymer.” Furthermore, paragraph 23 indicates that “gentle mixing” is used. Thus, Applicant submits that the phrase “substantial absence of shear force” is adequately supported and enabled. Since claims 34 and 35 incorporate claim 16 therein, applicant assumes that the Examiner would apply the 35 USC 112 rejection against claims 34 and 35 as well. For the same reasons set forth with respect to claim 16, Applicant submits that claims 34 and 35 overcome the rejection as well.

The Examiner rejected claims 2, 3, and 9 as indefinite in the use of the term “milled in the swollen stage”. Applicant has amended these claims to make this rejection moot. Milling the swollen polymer is now clearly recited.

Claims 1, 4-6, 23, and 28 were rejected as obvious over Kuwata et al under 35 USC 103(a). Insofar as the rejection did not include either of claims 8 or 16 and each of the independent claims has the limitation of one of claims 8 or 16, the rejection is overcome. Although not recited as part of the rejection, the Examiner devotes a short paragraph to claim 33 which appears to be based on this rejection. However, as claim 33 depends from claim 1, and claim 1 has overcome this rejection, then claim 33 overcomes it as well.

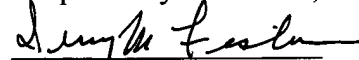
Claims 2, 3, 9-10, 12-15, 17-22, 24-27, and 29 were rejected as obvious under 35 USC 103(a) over Kuwata et al in view of the dictionary definition of “mill”. As claims 8 and 16 are not rejected on this ground and all of the independent claims now have the limitations of one of claims 8 and 16, all of the claims now have the limitations of one of claims 8 and 16. As such, claims 2, 3, 9-10, 12-15, 17-22, 24-27, and 29 now overcome this rejection and it should be withdrawn. On page 9 of the outstanding action, the Examiner mentions that claims 19-27 as being obvious in view of the discussion above. He also mentions claim 28. Applicant assumes that the Examiner intended the rejection of claims 2, 3, 9-10, 12-15, 17-22, 24-27, and 29 to also include claims 23 and 28, but inadvertently dropped them from the list. Nonetheless, since all of the claims now include either the limitations of claim 8 or the limitations of claim 16 and neither of those claims were rejected in this rejection, claims 23 and 28 also overcome this rejection.

Claim 11 was also rejected as obvious under 35 USC 103(a) over Kuwata et al in view of Karlstedt et al (US 3,775,442). This rejection was not applied to either claim 8 or 16. Since claim 11 depends from claim 7, which now includes the limitations of claim 8, the rejection is now overcome.

Having overcome all of the outstanding rejections, the application is believed to be in allowable form and a Notice of Allowance is respectfully requested.

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Dated: Oct. 4, 2004

Respectfully submitted,



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